Statement

Retail price of Cement per bag as on 31 *st December,* 1989 *and* \Ilk *July,* 1991 *,at four metropolitan cities*

(In rupees)

Name of the City	December, 89	July, 91	Variation
Delhi		110—115	41
Calcutta	. 82 86	114—123	37
Bombay	. 83 86	110-120	34
Madras ...	. 69—74	97- 102	28

Note : Variation s no wa is as per indicated maximum prices.

Performance of GTX Kaveri and GEF-404 Engines

•95. SHRI SURESH KALMADI: Will the Minister of DEFENCE be pleased to state:

the GEF-404 engine;how do they compare in cost and reliability;

(c) what percentage of components of the GTX Kaveri engine would be imported;

(d) whether it would be possible t_0 sustain production of the GTX Kaveri engine in the event of cut-off of foreign supplies of components;

(e) by when the prototype GTX Kaveri engine is likely to be ready. ; Establishing microwave linkage to

(f) by when GTX Kaveri is likely to g_0 into production

THE MINISTER OF DEFENCE (SHRI SHARAD PAWAR): (a) Performance of GTX Kaveri engine under Indian reference atmosphere will be better than that of GEF-404 engine with respect of maximum thrust with reheat. The specific fuel consua|)tion would be marginally higher In Kaveri engine.I al network;

(b) The cost of Kaveri engine (at 1989 price level) in production would

GEF-404. engine. The reliability of Kaveri engine design is expected to be comparable with GEF-404 engine.

, During the development phase *of during one dedoprm*$^{of\wedge}$me, the import

poductions phase the import content is expected to be less than 15 per cent.

(d) Yes, Sir.

likely to be ready in December 1993.

(f) Commencement of production $_O$f Kaveri engine is expected by December 1998.

Ahmedabad and Rajkot

SHRE VITHALBHAI M. PATEL: Will the Minister of INFORMATION AND BROADCASTING be pleased to state:

(a) whether it is a fact that Government of India have taken a decisilon to establish microwave linkage to Ahmedabad and Rajkot with other Kendras of Gujarat for region-

(b) what are the reasons for the delay in establishing microwave linkage to Ahmedabad; and

(c) by when it is likely to be done?

THE DEPUTY MINISTER IN THE MINISTRY OF INFORMATION AND BROADCASTING (KUMARI GIRIJA VYAS); (a) to (c). A statement is laid on the table of the House.

Statement

(a) There is, at present no proposal for establishment of a dedicated TV bearer microwave circuit between Doordarshan Kendra, Ahmedabad and other transmitters operating in the State. However, TV transmitters in Gujarat including the one at Rajkot are envisaged to be linked to Doordarshan Kendra, Ahmedabad for relay of regional service *via* satellite.

(b) and (c) The satellite-derived regional TV service was initially planned to be introduced in the State on availability of space segment during INSAT-II time frame i.e. between 1993 —95. However, with a view to catering to Gujarat's requirement as expeditiously as possible, arrangements have been made to introduce this service in an earlier time-frame. As per present indications, the Regional TV service is envisaged to be introduced in the State during, 1992.

*97. *[Transferred to* 26 *July,* 1991].

Schemes to study cosmology and space exploration

*98. SHRI S. K. T. RAMACHANDRAN: Will the PRIME MINISTER be pleased to state:

(a) what are the schemes under implementation to study Cosmology and Space Exploration;

(b) whether there is any agency in India to interact with other countries which are engaged in advanced Studies of Cosmology and Space exploration; if so, the details thereof;

(c) the number of Indian Satellites now in the Space and what are the missions; and

(d) the amount spent on space studies and space exploration during the year 1990-91?

THE MINISTER OF STATE IN T1HE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS (SMT. MARGARET ALVA): (a) to (d) A Statement is laid on the Table of the Rajya Sabha.

Statement

(a) There are a number of schemes under implementation to study cosmology and space exploration. These include:

—Setting up and operationalisation of 2.34m optical telescope at Kavalur.

—Establishment of 1-m infrared/ optical telescope at Mt. Abu.

—Augmentation of Synthesis Radio Telescope at Uthagamandalam (Tamilnadu) for large field of view observations.

—A Giant Metre-wave Radio Telescope (GMRT) is being set up about 80km north of Pune as a national facility.

—Conduct of a gamma-ray burst experiment through Stretched Rohini Satellite Series (SROSS).

—A joint satellite experiment called Indo-Soviet satellite gamma ray astronomy programme (GRISP) as a part of Indo-Soviet cooperation.

(b) Yes, Sir. Department of Space is coordinating international collaboration in the field of space exploration & cosmology. Apart from the Physical Research Laboratory (PRL), Ahmedabad (major space science